

# Chapter Nine: Conclusion Decision of the Director

## Contents

Chapter Nine: Conclusion and Request for Comments .....	9-1
A. Reasonably Foreseeable Effects of the Sale and Subsequent Activity .....	9-1
1. Cumulative Effects .....	9-1
2. Fiscal Effects.....	9-2
B. Specific Issues Related to Oil and Gas Exploration, Development, Production, and Transportation.....	9-3
1. Geophysical Hazards .....	9-3
2. Likely Methods of Transportation .....	9-3
3. Oil Spill Risk, Prevention, and Response.....	9-3
C. Mitigation Measures.....	9-3
1. Municipalities and Communities .....	9-3
2. Fish .....	9-4
3. Birds .....	9-5
4. Caribou.....	9-5
5. Grizzly Bear .....	9-5
6. Muskoxen.....	9-5
7. Arctic and Red Foxes, Wolf, and Wolverine .....	9-6
8. Polar Bear .....	9-6
9. Pinnipeds .....	9-6
10. Subsistence Uses .....	9-6
11. Historic and Cultural Uses .....	9-7
12. Transportation.....	9-7
13. Oil Spill Risk, Prevention, and Response.....	9-7
D. Bidding Methods and Lease Terms.....	9-7
E. Summary and Signature .....	9-7



# Chapter Nine: Conclusion and Request for Comments

DO&G is required by AS 38.05.035(e) and (g), to determine prior to an oil and gas lease sale, whether the sale best serves the state's interests. As the director of DO&G, my responsibility is to make that determination for Sale 87, North Slope Areawide. In making this decision for the final finding, I will balance the reasonably foreseeable positive and negative effects to determine whether the potential benefits exceed the potential negative effects and whether holding Sale 87 is in the best interests of the state.

In this final finding analysis, DO&G considered the reasonably foreseeable potential effects, both negative and positive, that this sale could have on fish, wildlife, and human users of these resources, on the local economy and well-being, and on state revenue. DO&G analyzed the available socioeconomic, environmental, geological and geophysical data and comments submitted by state and federal agencies, the petroleum industry, and local governments. The division has also considered the cumulative effects of development in the area.

## A. Reasonably Foreseeable Effects of the Sale and Subsequent Activity

The discussion throughout this finding, and the record reflect the analysis of the issues. Below is a summary of this analysis.

### 1. Cumulative Effects

#### a. Effects on Fish and Wildlife and their Habitats

**Fish:** Potential impacts in the exploration phase include degradation of streambanks and overwintering areas due to erosion and sedimentation. Potential impacts in future phases include habitat loss due to gravel displacement and facilities siting; interference with migration and movement from onshore structures and impoundments; and fish kills due to industrial water use, oil spills, unregulated discharge, and seismic activities. Long-term impacts may include habitat improvement due to restoration and rehabilitation of impacted sites.

**Birds:** Potential impacts are more likely to occur after the exploration phase, as few species are present during winter. Potential impacts include habitat loss, barriers to movement, disturbance during nesting and brooding, and oil spills.

**Caribou:** Potential impacts are more likely to occur after the exploration phase. Potential effects to caribou populations include migration disturbance and displacement from insect relief and preferred calving areas due to the construction, siting and operation of onshore facilities, roads and above-ground pipelines. Oil spills might also adversely affect caribou.

**Grizzly Bear:** During exploration, this bear species is most likely to be affected by disturbances during denning. During development and production, human activity may attract foraging bears to facilities, especially refuse disposal sites.

**Muskoxen:** During exploration and development, fixed-wing aircraft operations could disturb muskoxen in winter and during summer calving. Potential effects to muskoxen due to construction and operation of onshore facilities include displacement from overwintering and calving areas.

**Foxes and Other Furbearers:** During exploration and development, human activity may attract foraging foxes, especially to refuse disposal areas. Oil spills may reduce available habitat and food for all furbearers.

**Polar Bears:** Potential impacts to polar bears can occur during all phases. Impacts include disruption of denning, harm from oil spills, alteration of habitat, and adverse interaction with humans.

**Pinnipeds:** Potential impacts to pinnipeds (seals and walrus) can occur during all phases. Impacts include alteration of habitat, disturbance, and harm from oil spills and unregulated discharges.

### b. Effects on Subsistence Uses

Potential impacts to subsistence include reduced or obstructed access to subsistence harvest areas, perceived or actual loss of values associated with hunting and fishing, damage to fish and wildlife habitats, and possible reductions in local fish and wildlife abundance. Other potential impacts include increased access to harvest areas from new roads, and an increase in available cash income to supplement family income and pay for subsistence harvest gear, tools, and supplies.

### c. Effects on Historic and Cultural Resources

Potential impacts could occur in all phases, but are likely to occur during the development phase. Potential impacts include disruption of culture and disturbance of historic, prehistoric, and archeological sites. Previously unidentified or undiscovered sites could be damaged if the pre-construction historic resources inventory was incomplete. They could also be damaged if project workers were not adequately trained.

### d. Effects on Municipalities and Communities

## 2. Fiscal Effects

The backdrop for any fiscal analysis and discussion is the current state revenue picture, including revenue sources, demand or need for revenues, and projected declines.

The primary source of state revenues is North Slope oil production. North Slope fields hold 98 percent of the state's known oil reserves and 90 percent of the state's known gas reserves. The remainder of state oil and gas reserves are found in Cook Inlet fields. However, oil and gas reserves are finite resources and North Slope production is declining. Even if the price of crude oil remained at present levels, general fund receipts will continue to decline (see Chapter Five). Hopefully, discovery and development of smaller, but important fields will temper the anticipated decline in revenues to the state treasury.

Most revenues generated from oil and gas activities go into the state's general fund, while some are set aside for the state permanent fund. Many funds, including oil and gas property taxes, are passed directly through to borough and municipal governments. Statewide, Alaskans receive direct and indirect benefits derived from general fund spending. General fund receipts are allocated to local governments and all state agencies, including the University of Alaska. Funds can be passed directly to local governments through programs, while others are authorized specifically by the state legislature.

If the lease sale proceeds, there will be a one-time increase in state income from bonus payments, and an annual increase from rental payments. The potential for additional revenue from royalties and taxes is unpredictable, however, overall petroleum potential for the sale area is low to moderate. As exploration takes place, the sale would add jobs to the state and regional economy. These jobs would not be limited to the petroleum industry, but would be spread throughout the trade, transportation, service, and construction industries. The number of jobs produced would depend on whether commercial quantities of oil and gas are discovered, and whether projects to develop those resources are initiated. Discovery and development of commercial quantities of petroleum or natural gas in the Sale 87 area would bring direct economic benefits to the NSB in the form of additions to local property tax revenue. Additionally, industry investment in environmental and wildlife studies, planning and design activities, materials acquisition, facility construction, seismic surveys, drilling, transportation, and logistics contributes to the well being of both the state and local economy.

## B. Specific Issues Related to Oil and Gas Exploration, Development, Production, and Transportation

### 1. Geophysical Hazards

Geophysical hazards that must be considered during development of production and transportation facilities are faults and earthquakes, permafrost, seasonal flooding and icing, coastal and riverbank erosion, coastal currents and storm surges, unstable and overpressured sediments, shallow gas deposits, and natural gas hydrates.

### 2. Likely Methods of Transportation

Elevated or buried flow, gathering, and common carrier pipelines would carry petroleum from wellheads to processing centers, and eventually into TAPS. Elevated pipelines can restrict caribou and other wildlife movements, especially if accompanied by a road with regular vehicle traffic. Buried pipelines have little impact on wildlife, but cannot be visually inspected and must be designed to avoid thawing of frozen soil.

### 3. Oil Spill Risk, Prevention, and Response

Exploration and development of the Sale 87 area will create a potential for oil spills. The likelihood of a large onshore oil spill is small, but may impact habitat, fish and wildlife populations in the immediate vicinity of the spill.

## C. Mitigation Measures

Mitigation measures and lessee advisories (listed in Chapter Seven), and other regulatory requirements have been developed to mitigate potential impacts if exploration and subsequent development should occur in the Sale 87 area. These include:

### 1. Municipalities and Communities

- **Environmental Protection** -- Numerous measures are designed to protect environmental quality and the habitats that support important subsistence resources. Other measures are designed to protect key species, like caribou, birds, and fish, from potential adverse effects of oil and gas activities. Because of the state's interest in encouraging clean air, lessees are encouraged to adopt conservation measures to reduce hydrocarbon emissions.
- **Access to Resources** -- Restricting access to subsistence resources is prohibited under ACMP and local ordinances. Access to identified traditional use sites shall not be infringed. No restriction of public access to, or use of, the lease sale area due to oil and gas activity will be permitted, except within the immediate vicinity of drill sites, buildings and other related facilities. Any area of restricted access must be justified in the plan of operations.
- **Subsistence Conflict Resolution** -- Prior to initiating any activity which may disrupt subsistence harvesting, lessees must consult with the NSB and the affected community before plans of operation can be approved. Plans of Operation must include a discussion of the reasonably foreseeable effect on subsistence activities of any other operations in the area that lessees know will occur during the lessee's proposed operations. Lease-related use will be restricted when the Director determines it is necessary to prevent unreasonable conflicts with subsistence harvests. The Commissioner of ADNRC may assemble affected parties or take other measures to resolve conflicts.
- **Cultural Awareness** -- Lessees are required to conduct a training program for all personnel, including contractors and subcontractors, involved in any activity. The program must be designed to inform each person working on the project of environmental, social, and cultural concerns which relate to the individual's job. In addition, the program must also be designed to help personnel increase their sensitivity

and understanding of community values, customs, and lifestyles in areas where they will be operating. The program must include an explanation of the applicable laws protecting cultural and historic resources.

- Protection of Historic and Archeological Sites -- Prior to exploration activities involving ground disturbance, and subsequent development, lessees must conduct an archeological inventory. If any objects are discovered at any time, they must be reported, and appropriate protective measures followed.
- Economic Security -- Lessees are encouraged to employ local and Alaska residents and contractors. Plans of Operation must include a prescription for partnering with local communities in recruiting and hiring Alaska residents and contractors. Lessees are advised to bring local residents into their operations planning process. Residents can provide critical input and traditional knowledge to operations and oil spill prevention and response planning. Community representation on management teams facilitate the transfer of information, intentions, and values between lessees and residents.

## 2. Fish

- Habitat Protection -- Lessees may be required to construct ice and/or snow bridges if ice thickness at a crossing is insufficient to protect the streambed and the stream bank. Any removal of water from fishbearing streams, rivers, and natural lakes requires written approval. When a fishbearing waterbody is used as a water source, lessees must use appropriate measures to avoid entrainment of fish (prevent fish from being drawn into the intake pipe). Lessees must locate, develop, and rehabilitate gravel mine sites in accordance with ADF&G guidelines. All discharges into upland waterbodies must meet state water quality standards. Disposal of produced waters in upland areas is prohibited unless approved by ADEC under 18 AAC 430. Disposal of wastewater, such as domestic greywater, into fresh waterbodies is prohibited. Lessees are advised that permanent, staffed facilities must be sited to the extent feasible and prudent outside identified Dolly Varden (arctic char) overwintering areas.
- Marine Discharge -- Discharge of produced waters into open or ice covered waters less than 10 meters is prohibited. Discharge of muds and cuttings is prohibited shoreward of the 5-meter isobath. For those areas that are greater than 10 meters, the commissioner of ADEC may approve discharges on a case-by case basis. Under the NPDES general permit, discharge is not authorized within 1,000 meters of Stefansson Sound. Discharge is prohibited within 1,000 meters of river mouths or deltas during unstable or broken ice or open water conditions.
- Waterbody Buffers -- Onshore facilities other than docks, or road and pipeline facilities must not be sited within 500 feet of fishbearing streams. Facilities may not be sited within 1/2 mile of the banks of the main channel the Colville, Canning and Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk and Chandler Rivers. No facility will be sited within 500 feet of all other fishbearing waterbodies. Road and pipeline crossings must be perpendicular to watercourses to prevent buffer erosion. Additionally, facilities may not be sited within one-half mile of identified Dolly Varden both overwintering/spawning areas on the Kavik, Canning and Shaviovik Rivers. Road and pipeline crossings will not be sited within these buffers unless the Director, after consulting ADF&G, determines that such facility restrictions are not feasible or prudent.
- Obstructions to Migration and Movement --Continuous fill causeways are discouraged. Any proposed causeway must be designed, sited, and constructed so as to maintain free passage of marine and anadromous fish, and shall not cause significant changes to nearshore oceanographic circulation patterns and water quality characteristics that result in violations of state water quality standards. Causeways may not be located in river mouths or deltas. Monitoring programs and mitigation, such as breaching, may be required to achieve intended protection objectives.

Activities that may block fish passage in anadromous streams are prohibited. Alteration of riverbanks, except for approved crossings is prohibited. Operation of equipment other than boats in open water areas of rivers and streams is prohibited. If bridges are not feasible, culverts used for stream crossings must be designed, installed, and maintained to provide efficient passage for fish.

- Explosives -- The lessee will consult with the NSB prior to proposing the use of explosives for seismic surveys. The director may approve the use of explosives for seismic surveys after consultation with the NSB.

- Oil Spill Prevention and Control -- Lessees are advised they must prepare contingency plans addressing prevention, detection, preparedness, response capability, and cleanup of oil spills. Lining and diking of oil or fuel storage tanks is mandatory, and buffer zones are required to separate oil storage facilities from marine and freshwater supplies.

### 3. Birds

- Habitat Protection -- Lessees must identify and avoid sensitive habitat areas and site permanent facilities outside of identified brant, white-fronted goose, tundra swan, king eider, Steller's eider, spectacled eider, and yellow-billed loon nesting and brood rearing areas. Permanent facilities must be sited minimum distances from streams and lakes. Lessees must comply with the USF&WS' recommended protection measures for peregrine falcons, and Spectacled eiders during the nesting and brood rearing periods. Lessees are advised to consider identified sensitive bird habitats when planning operations. Lessees shall comply with the Recommended Protection Measures for Steller's eider once they are developed by the USFWS.
- Disturbance -- Lessees are advised that aircraft must avoid identified brant, white-fronted goose, tundra swan, king eider, common eider, and yellow-billed loon nesting and brood rearing habitat, and the fall staging areas for geese, tundra swans, and shorebirds, during critical time periods in summer and fall. NSB Municipal Code (19.70.050(I)(1)) requires that vehicles, vessels, and aircraft that are likely to cause significant disturbance must avoid areas where sensitive species are concentrated. Horizontal and vertical buffers will be required where appropriate.
- Oil Spill Prevention and Control -- Lessees are advised they must prepare contingency plans addressing prevention, detection, and cleanup of oil spills. Lining, diking and buffer zones are required to separate oil storage facilities from marine and freshwater supplies.

### 4. Caribou

- Disturbance -- If development occurs, pipelines must be designed and constructed to accommodate caribou movement and migration patterns. Above-ground pipelines must be elevated a minimum of five feet. Ramps or pipeline burial may be required to facilitate caribou movement.
- Habitat Loss -- Lessees are advised that aircraft should avoid caribou concentrations to ensure access to insect relief and calving habitat. Gravel mining must be limited to the minimum necessary to develop a field efficiently.
- Lessees are advised in planning and design activities to consider the recommendations for oil field design and operations contained in the final report to the Alaska Caribou Steering Committee.

### 5. Grizzly Bear

- Waste management -- lessees must use appropriate methods of garbage and putrescible waste disposal to minimize attracting bears.
- Habitat protection -- lessees must avoid conducting exploration or development activities in the vicinity of occupied dens, or obtain approval for alternative mitigating measures.
- Avoidance of human/bear conflicts --- lessees are encouraged to prepare bear interaction plans.

### 6. Muskoxen

- Disturbance -- If development occurs, pipelines must be designed and constructed to accommodate muskoxen movement and migration patterns. Lessees are advised that aircraft should avoid muskoxen concentrations.

## 7. Arctic and Red Foxes, Wolf, and Wolverine

- Habitat protection -- Exploration facilities must be temporary and must utilize ice roads and pads. Facilities may not be sited within waterbody buffers.
- Waste management -- lessees must use appropriate methods of garbage and putrescible waste disposal to minimize attracting wolves, wolverines, and foxes.

## 8. Polar Bear

- Lessees are advised they must comply with the provisions of the Marine Mammal Protection Act.
- Disturbance and Habitat protection -- lessees must avoid conducting exploration or development activities in the vicinity of occupied dens. Lessees are advised that certain areas are especially valuable for their concentrations of polar bears and must be considered when developing plans of operation.
- Avoidance of human/bear conflicts -- lessees are encouraged to prepare bear interaction plans.
- Waste management -- lessees must use appropriate methods of garbage and putrescible waste disposal to minimize attracting bears.
- Oil Spill Prevention and Control -- Lessees are advised they must prepare contingency plans addressing prevention, detection, and cleanup of oil spills. Lining, diking and buffer zones are required to separate oil storage facilities from marine and freshwater supplies.

## 9. Pinnipeds

- Oil Spill Prevention and Control -- Lessees are advised they must prepare contingency plans addressing prevention, detection, and cleanup of oil spills. Lining, diking and buffer zones are required to separate oil storage facilities from marine and freshwater supplies.
- Lessees are advised they must comply with the provisions of the Marine Mammal Protection Act.

## 10. Subsistence Uses

- Animal disruption -- Lessees are advised that interfering with reasonable access to subsistence resources violates the ACMP and NSB Municipal Code. Aircraft should avoid sensitive bird habitat, and vertical and horizontal buffers separating aircraft from waterfowl, caribou, and muskoxen may be required. Identified sensitive habitats must be avoided and potential adverse impacts considered in operations planning.
- Unrestricted access -- No restriction of public access to, or use of, the lease sale area due to oil and gas activity will be permitted, except within the immediate vicinity of drill sites, buildings and other related facilities. Any area of restricted access must be justified in the plan of operations.
- Oil Spill Prevention and Response -- In addition to addressing the prevention, detection, and cleanup of releases of oil, contingency plans (C-Plans) should include methods for detecting, responding to, and controlling blowouts. NSB Municipal Code requires that C-Plans include the location and identification of oil spill cleanup equipment; the location and availability of suitable alternative drilling equipment; a plan of operations to mobilize and drill a relief well; and a risk analysis indicating where oil spills are likely to flow under various sets of meteorological or oceanographic conditions (19.70.050(I)(6-7)).
- Harvest conflict resolution -- lessees must cooperate with agencies and the public to avoid conflicts by selecting alternative sites or implementing seasonal restrictions on certain activities, and by siting permanent facilities a minimum distance from fishbearing waterbodies. Prior to initiating any activity which may disrupt subsistence harvesting, lessees must consult with the affected community before plans of operation may be approved. Plans of Operation must include a discussion of the reasonably foreseeable



effect on subsistence activities of any other operations in the area that lessees know will occur during the lessee's proposed operations. Lease-related use will be restricted when the Director determines it is necessary to prevent unreasonable conflicts with subsistence harvests. The Commissioner of ADNR may assemble affected parties or take other measures to resolve conflicts.

- Community participation -- Lessees are advised to bring local residents into their operations planning process. Residents can provide critical input and traditional knowledge to operations and oil spill prevention and response plans. Community representation on management teams facilitates understanding and the transfer of information between the intentions of the lessee and the values of residents.

## 11. Historic and Cultural Uses

- Education -- lessees are required to conduct training for all employees and contractors on environmental, social, and cultural concerns in the sale area.
- Protection of historic and archeological sites -- prior to exploration activities involving ground disturbance, and subsequent development, lessees must conduct an archeological inventory. If any objects are discovered at any time, they must be reported, and appropriate protective measures followed.

## 12. Transportation

- Maintenance of nearshore oceanographic circulation patterns and fish passage -- Continuous fill causeways are discouraged. Any proposed causeway must be designed, sited, and constructed so as to maintain free passage of marine and anadromous fish, and shall not cause significant changes to nearshore oceanographic circulation patterns and water quality characteristics that result in violations of state water quality standards. Causeways may not be located in river mouths or deltas. Monitoring programs and mitigation, such as breaching, may be required to achieve intended protection objectives.

## 13. Oil Spill Risk, Prevention, and Response

- Oil spill prevention -- Lessees are required to implement oil spill prevention, control, and countermeasures plans (see Chapter Five). In addition, they are required to site facilities away from lakes and streams and critical wetlands, to provide adequate protection for on-site oil storage, and to locate pipelines to facilitate oil spill cleanup.

## D. Bidding Methods and Lease Terms

The selection of the bidding method, minimum bid, and term of the lease was made following the department's pre-sale analysis of economic, engineering, geological, and geophysical data. The bidding method selected best secures revenues for the state without creating disincentives to industry.

The bidding method selected for Sale 87 is cash bonus bid. The minimum bid is \$5.00 per acre. There will be a fixed 12-1/2 percent royalty. The initial term is 7 years. There will be no exploration incentive credits for this sale.

## E. Summary and Signature

No activity may occur without further review and proper authorization from the appropriate permitting agency and all activities must comply with the NSBCMP and the Alaska Coastal Management Program. When specific activities are proposed, more detailed information such as site, type, and size of facilities will be known, in addition to the historical project data. Except for some very limited types of proprietary information, permit applications are public information and most permitting processes include public comment periods. Additional terms may be imposed in any subsequent permits when applied for if additional issues are identified at that time.

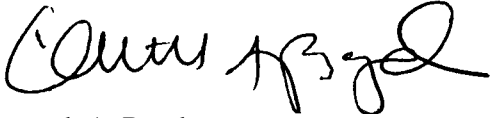
Developing the state's petroleum resources is vital to the state economy and the well being of its citizens. With Sale 87 mitigation measures presented in this final finding imposed on leases and plans of

operation, and additional project-specific and site-specific mitigation measures imposed in response to specific proposals, the petroleum resources of the sale area can most likely be explored and developed without significantly affecting fish and wildlife populations or traditional human uses. The state has sufficient authority from general constitutional, statutory and regulatory empowerments, the terms of the sale, the lease contract, and plan of operations permit terms to ensure that lessees conduct their activities safely and in a manner that protects the integrity of the environment and maintains opportunities for subsistence uses.

On the basis of the facts and issues presented at this time, the foregoing findings, applicable laws and regulations, and the documents reviewed during preparations of this final finding, I conclude, as a final matter, that the potential benefits of the sale, as conditioned, outweigh the possible adverse impacts, and that Oil and Gas Lease Sale 87, North Slope Areawide, will best serve the interests of the state of Alaska.

This Best Interest Finding is a final administrative decision of the department. A person who is aggrieved by this finding may request the commissioner to reconsider the decision under AS 35.05.035(i) and (j). To be eligible an appellant must have meaningfully participated in the process to develop the finding by either submitting written comments during the prescribed comment periods, or by presenting oral testimony at a public hearing regarding the proposed sale. A request for reconsideration must be received by John T. Shively, Commissioner, Department of Natural Resources, 3601 "C" Street, Suite 1210, Anchorage, Alaska 99503-5921, or received by fax at 1-907-269-8918 by 5:00 p.m. (local time), April 6, 1998. If the commissioner fails to act on the request for reconsideration by April 16, 1998, the request is considered denied.

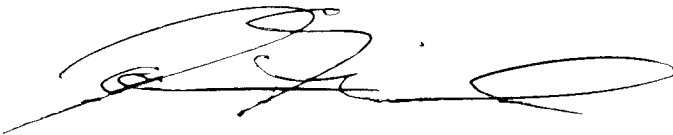
A denial of a request for reconsideration is the final administrative decision for purposes of appeal to Superior Court. A person may appeal the Final Best Interest Finding to Superior Court only if the person was eligible to request, and did request, an administrative reconsideration of the finding by the commissioner. An appellant must initiate an appeal to the Superior Court within 30 days from the date of denial of that reconsideration or from the date of distribution of the denial decision, in accordance with the rules of court and to the extent permitted by applicable law.



Kenneth A. Boyd  
Director

March 17, 1998

I concur with the decision of the director that Sale 87 is in the best interests of the state.



John T. Shively  
Commissioner

March 17, 1998